

WHAT IS CLAIMED IS:

1. A method of producing a flowable composition that sets into a calcium phosphate containing product, said method comprising:
5 combining:
 (a) a setting fluid;
 (b) dry reactants comprising a calcium source and a phosphate source;
and
 (c) an osteoclastogenic agent;
10 in a ratio sufficient to produce said flowable material.
2. The method according to Claim 1, wherein said setting fluid comprises said osteoclastogenic agent.
- 15 3. The method according to Claim 1, wherein said dry reactants comprise said osteoclastogenic agent.
4. The method according to Claim 1, wherein said osteoclastogenic agent comprises a modulator of the RANK mediated osteoclastogenesis induction
20 pathway.
5. The method according to Claim 4, wherein said mediator is an ligand for RANK.
- 25 6. The method according to Claim 5, wherein said ligand for RANK is a RANKL polypeptide or mimetic thereof.
7. The method according to Claim 4, wherein said ligand is a RANKL polypeptide.

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8. The method according to Claim 7, wherein said RANKL polypeptide is a human RANKL or a RANK binding fragment thereof.

9. The method according to Claim 6, wherein said ligand is a small molecule mimetic of RANKL.

10. The method according to Claim 1, wherein said ratio ranges from about 0.2:1 to 0.7:1.

11. The method according to Claim 10, wherein said flowable composition is a paste.

12. The method according to Claim 1, wherein said setting fluid is a solution of a soluble silicate.

13. The method according to Claim 1, wherein said flowable composition sets into said calcium phosphate containing product in a period of time ranging from about 5 to 10 minutes.

14. The method according to Claim 1, wherein said calcium phosphate containing product has a compressive strength ranging from about 25 to 100 MPa.

15. A method of producing a paste that sets into a calcium phosphate containing product, said method comprising:

(a) combining:

(i) dry reactants comprising a calcium source and a phosphate source;

(ii) a setting fluid; and

(iii) an osteoclastogenic agent;

wherein said dry reactants, setting fluid and osteoclastogenic agent
are combined in a ratio sufficient to provide for said paste; and
(b) mixing said combined reactants and setting fluid for a sufficient
period of time to produce a paste capable of setting into a calcium phosphate
5 containing product.

16. The method according to Claim 15, wherein said setting fluid comprises
said osteoclastogenic agent.

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17. The method according to Claim 15, wherein said dry reactants comprise
said osteoclastogenic agent.

18. The method according to Claim 15, wherein said osteoclastogenic agent
15 comprises a ligand for RANK.

19. The method according to Claim 15, wherein said ligand is a RANKL
polypeptide or mimetic thereof.

20. The method according to Claim 15, wherein said setting fluid is a solution
20 of a soluble silicate.

21. The method according to Claim 15, wherein said flowable composition
sets into said calcium phosphate containing product in a period of time ranging
25 from about 5 to 10 minutes.

22. The method according to Claim 15, wherein said calcium phosphate
containing product has a compressive strength ranging from about 25 to 100
MPa.

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23. A flowable composition that sets into a calcium phosphate containing product, wherein said composition comprises an osteoclastogenic agent.

24. A method of repairing a hard tissue defect, said method comprising:
5 applying to the site of said defect a flowable composition according to Claim 23.

25. A kit for use in a preparing a flowable composition that sets in an in vivo fluid environment into a calcium phosphate product, said kit comprising:

- 10 (a) dry reactants comprising a calcium source and a phosphate source;
(b) a setting fluid or components for producing the same; and
(c) an osteoclastogenic agent.

26. A packaged calcium phosphate cement, said packaged cement
15 comprising:

a tubular element separated into a first compartment and at least one additional compartment by a removable barrier;

- (i) dry reactants comprising a source of calcium and phosphate present in said first compartment;
20 (ii) a setting fluid or components thereof present in said at least one additional compartment; and
(iii) an osteoclastogenic agent present in either said first compartment, said at least one additional compartment or in a second additional compartment;.

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27. The packaged calcium phosphate cement according to Claim 26, wherein said removable barrier is a clip.

28. The packaged calcium phosphate cement according to Claim 26, wherein
30 said removable barrier is a frangible barrier.

29. The packaged calcium phosphate cement according to Claim 26, wherein said setting fluid is a solution of a soluble silicate.

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